

holes and to the center of the nearest or the most important of the holes to be drilled in the jig. The same strapping or clamp-ing arrangements for the jig and work, as mentioned for the simpler form of jig, may be employed

Improving the Jig by Adding Locating Screws. The next step toward improving the jig under consideration would be to provide the jig with locating screws, as shown in Fig. 7. By the addition of these, the locating arrangements of the jig become complete, and the piece of work will be prevented from shifting or moving sideways. These locating screws are placed so that the clamping points come as nearly opposite to some bearing points on the work as possible. In order to provide for locating set-screws in our present jig, three lugs or projections *A* are added which hold the set-screws. If possible the set-screw lugs should not reach above the surface of the work, which should rest on the drill-press table when drilling the holes.

The present case illustrates the difficulty of giving exact rules for jig design. Two set-screws are used on the long side of the work, but in a case like this, where the piece is comparatively short and stiff, one lug and set-screw, as indicated by the dotted lines at *B* in Fig. 7, would be fully sufficient. The position of the set-screw placed right between the two locating pins will not be great enough to spring the piece out of shape. When the work is long and narrow, two set-screws are required on the long side, but, in the case illustrated, two lugs would be considered a wasteful design.

Providing Clamps and Feet for the Jig, - • The means by which the work has been clamped or strapped to the jig when drilling in the drill press (see Fig. 4) have not been integral parts of the jig in the simple types shown. If clamping arrangements that are integral parts of the jig are to be added, the next improvement would be to add four legs in order to raise the jig-plate enough above the surface of the drill-press table to get the required space for such clamping arrangements. The completed jig of the best design for rapid manipulation and ditplinnit\* work would then have the appearance shown in Fig. 8. The jig here is provided with a handle cast integral with the jig body, and